

Name _____

AP Chemistry

Salt Identification Practice

Answer the following questions on another sheet of paper.

- 1) Predict whether aqueous solutions of the following compounds are acidic, basic, or neutral:
 - (a) FeCl_3
 - (b) Na_2CO_3
 - (c) KClO_4
 - (d) NaHC_2O_4
 - (e) CrBr_3
 - (f) LiI
 - (g) K_3PO_4
 - (h) KHSO_4
- 2) Calculate $[\text{OH}^-]$ and pH for each of the following solutions:
 - (a) 0.10 M NaCN ($K_a = 4.9 \times 10^{-10}$)
 - (b) 0.080 M Na_2CO_3 ($K_a = 4.3 \times 10^{-7}$)
- 3) Sorbic acid ($\text{HC}_6\text{H}_7\text{O}_2$) is a weak monoprotic acid with $K_a = 1.7 \times 10^{-5}$. Its salt (potassium sorbate) is added to cheese to inhibit the formation of mold. What is the pH of a solution containing 11.25 g of potassium sorbate in 1.75 L of solution?
- 4) The K_a for formic acid (HCO_2H) is 1.8×10^{-4} . What is the pH of a 0.35 M aqueous solution of sodium formate (NaHCO_2)?
- 5) Calculate the pH of 0.726 M anilinium hydrochloride ($\text{C}_6\text{H}_5\text{NH}_3\text{Cl}$) solution in water, given that K_b for aniline is 3.83×10^{-4} .
- 6) The pH of a 0.15 M aqueous solution of NaZ (the sodium salt of HZ) is 10.7. What is the K_a for HZ ?
- 7) What is the pH of a 0.50 M solution of NaNO_2 ? For HNO_2 , $K_a = 4.5 \times 10^{-4}$.
- 8) K_b for NH_3 is 1.8×10^{-5} . What is the pH of a 0.35 M aqueous solution of NH_4Cl at 25.0°C ?